

Claims

What is claimed is:

1. A method for capillary separation of a sample comprising:

    injecting the sample into a separation channel;  
    electrophoretically separating the sample in  
the separation channel;

    exposing the separation channel to a cycling  
temperature gradient while electrophoretically separating  
the sample; and

    detecting separated compounds in said sample.

2. The method of claim 1, wherein said separation  
channel is a capillary tube.

3. The method of claim 1, further comprising repeating  
all steps of claim 1 in a plurality of capillaries in a  
capillary array.

4. The method of claim 1, wherein said separation  
channel is on a micro-fabricated substrate.

5. The method of claim 4, wherein said micro-fabricated  
substrate includes a plurality of separation channels and  
steps of claim 1 are repeated in each channel.

6. A method for separating compounds comprising:
  - a) injecting a sample into a separation channel;
  - b) migrating the sample for a specified interval;
  - c) repeating steps a and b a plurality of times;
  - d) following a final sample injection, continuously detecting separated samples; and
  - e) exposing the separation channel to a cycling temperature gradient during steps a, b, c, and d such that a plurality of temperature cycles occur between each sample injection.
7. The method of claim 6, wherein said separation channel is a capillary tube.
8. The method of claim 6, further comprising repeating all steps of claim 6 in a plurality of capillaries in a capillary array.
9. The method of claim 6, wherein said separation channel is on a micro-fabricated substrate.
10. The method of claim 9, wherein said micro-fabricated substrate includes a plurality of separation channels and steps of claim 1 are repeated in each channel.
11. The method of claim 6, wherein the cycling temperature gradient has identical duration and temperature range cycles.

12. The method of claim 6, wherein the cycling temperature gradient has variable duration or temperature range cycles.